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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,077

11/19/2007

Fokko Pieter Wieringa

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23460 7590 10/24/2011
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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT

PAPER NUMBER

2881

NOTIFICATION DATE

DELIVERY MODE

10/24/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Chgpatent@leydig.com

Office Action Summary

Application No.

10/598,077

Applicant(s)

WIERINGA ET AL.

Examiner

PHILLIP A. JOHNSTON

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-22 is/are pending in the application.
- 5a) Of the above claim(s) 17-22 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-16 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 19 November 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8-17-2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Detailed Action

1. This Office Action is submitted in response to the Restriction filed 8-15-2011, wherein the Group I claims, 1-16 were elected. Claims 1-16 are now pending.

Claims Rejection – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat Pub No 2005/0036667 to So, in view of Silber US Pat Pub No 2002/0181762.

4. Regarding claim 16, So discloses an apparatus for imaging sub-cutaneous objects (buried beneath the skins surface). See [0036]. The apparatus includes a light source for imaging the object at different selectable wavelengths, where the beam of light is concentrated by focusing (a bounded source); and includes a CCD or CMOS camera [0042], as well as an image processing computer [0067]. The processor is used to perform 3D image segmentation, where individual images are combined or reconstructed into a single image based upon grayscale intensity [0052] and [0078].

So further discloses scanning the sample surface at different speeds to obtain spatial information to determine; for example, motion of objects in fluids by comparing one image to a previous image in time [0043] and [0051]-[0053].

So fails to explicitly teach a processing device that, provides a gradient analysis of an image in order to detect the edges of a buried structure; and after comparing the gradient analysis of two images, discards the edges found in both images and combines the two images to define the edges of the buried structure.

Silber discloses using known edge detection means while performing gradient analysis that includes criteria for removal of selected edge data in a plurality of images in order to obtain a composite image and a composite image edge map, which defines the edges of the object in the composite image [0095]-[0102].

Silber modifies So to provide a technique for identifying edges in an image that is sensitive to and indicative of the degree to which an edge is focused in an image in order to obtain the best focus conditions of the edges of an object in an image [0069]-[0076].

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that So would use the image processing technique of Silber to reduce out-of-focus artifacts and identify well-focused edges or boundaries in the source images during construction of a composite image, thereby providing a high-resolution, well-focused image of a portion of a three-dimensional object while allowing the user to clearly observe or record the surrounding area. [0012].

5. Regarding claims 1-15, So discloses the apparatus used to perform all the steps of these method claims to obtain an image of structures buried beneath the surface of an object, as described above regarding claim 16; including the use of infrared light [0102] and scanning the sample surface using different speeds and patterns to obtain spatial information for detecting motion of objects in fluids by comparing one image to a previous image in time

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[0043] and [0051]-[0053], which one of ordinary skill would expect to include pulse, heartbeat and/or respiratory analysis.

Conclusion

6. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Robert Kim can be reached at (571)272-2293. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

September 12, 2011

/Phillip A Johnston/

Primary Examiner, Art Unit 2881

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